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June 25, 2012

Office of Environmental Information Docket
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 28221T
Washington, D.C. 20460

Re: An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska – Peer Review Panel Members and Charge Questions (77 *Fed. Reg.* 108 (June 5, 2012); Docket ID No. EPA-HQ-ORD-2012-0358

Dear Sir or Madam:

On behalf of the Pebble Limited Partnership ("PLP"), we submit these comments on the peer review panel and charge questions announced by EPA in the *Federal Register* on June 5, 2012. In the first section below, we offer narrative comments on deficiencies in EPA's charge questions that warrant reconsideration. We next provide specific proposed re-formulations and supplementations of the charge questions.

I. Comments on EPA's Charge Questions.

1. Context and Scale. The context and scale of EPA's charge questions is inappropriately narrow in two critical respects: First, several questions narrowly focus on potential injury to individual salmonid fish: they ignore population and ecosystem level analysis. Second, the questions focus only on discrete portions of the Bristol Bay watershed – the Nushagak and Kvichak watersheds which contain the proposed Pebble Project. The proper focus should be on the potential adverse impacts to the Bristol Bay watersheds that support salmon, and the salmon fishery, wildlife and Alaska Native cultures associated with those watersheds.

The title of EPA's draft report, "*An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska*" (hereinafter "*Bristol Bay Assessment*") refers to ecosystems, but the charge questions actually avoid assessing the potential eco-system impacts of the mining scenario across the Bristol Bay watersheds. They ask about the impact in a particular area, but not about the impact on the Bristol Bay watershed itself.

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They ask about impact to fish, but not about the impact on the watershed's overall fish population. In short, EPA's questions (especially Nos. 5-9 described below) evade a meaningful inquiry into the significance of the estimated impacts to the region under study. The questions focus attention away from the important questions that the peer reviewers should address.

2. Scientific Literature and Data. Two of EPA's questions (Questions 1 and 2) ask whether any significant scientific literature was missed in the *Bristol Bay Assessment* that would be useful in completing EPA's analysis. EPA appears to draw an artificial distinction between Questions 1 and 2 and the balance of the questions, with no explanation as to why, for example, EPA has not asked whether it missed literature relating to culvert failures along transportation corridors (Question 7). The missing literature question should apply globally.

EPA also failed to inquire about missing scientific data. Modern regulated metallic mines in the United States (and Canada) submit extensive data on water quality and fisheries to regulatory agencies. EPA therefore possesses or has access to vast amounts of relevant data which are not contained in published literature. These data do not appear to have been included in the *Bristol Bay Assessment* process. EPA should ask the peer reviewers whether data that is available to EPA regarding water quality and fisheries near modern metal mines in Alaska, Canada, or the Pacific Northwest should have been included in the *Assessment*. EPA should also inquire whether any other scientific data known to the peer reviewers is available and relevant to the *Assessment* process.

3. Use of Environmental Baseline Data. EPA should provide access to the extensive environmental baseline data provided to EPA by PLP. If EPA does not, it should immediately explain why not.

Assuming EPA provides the PLP data to the peer reviewers, they should be asked whether EPA's other data pertaining to the Bristol Bay watershed is of equal quality to the environmental baseline data. The peer reviewers should be asked whether EPA's *Assessment* would be more reliable if it used additional available environmental data.

4. Assessment of Other Modern Mines in Fisheries. EPA's charge questions should ask whether the draft *Bristol Bay Assessment* should consider information about other modern regulated mines, such as: (a) those on the Fraser River salmon fisheries in British Columbia, including the Highland Valley Copper Mine; (b) the Thompson Creek Mine in Idaho, which is within the Salmon River fishery; (c) the Red Dog Mine in Alaska; and others. If that data were not used by EPA in formulating its *Assessment* or EPA does not plan on providing that data to the peer review panel, EPA should immediately explain why and ask the peer review panel whether such data would be useful to a scientific assessment of the effects of mining in the Bristol Bay watershed.

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5. The Need for an Actual Mine Plan and Alternatives. The draft assessment report unquestionably targets the Pebble Project by depicting the *potential* mine development scenario publicly released in 2011 by one partner in PLP. *See Bristol Bay Assessment* at p. ES-12, and 4-19 to 4-36. Since this scenario is not an actual mine plan and it lacks detailed mine development alternatives, the peer reviewers should be asked about these fundamental assumptions made by EPA and how they affect the assessment's reliability. Related to this issue, the peer reviewers should be asked whether EPA's projections of cumulative impacts from "multiple mines" beyond the Pebble Project (*see Assessment* Chapter 7) is scientifically valid since EPA "cannot predict what mining activities would occur in the future, in what order mines would be developed, or what their specific impacts would be." *Assessment* at 7-3.

6. Alaska Native Cultures in This Region are Declining. The peer reviewers should be asked about the future of the Alaska Native subsistence culture in the region in the *absence* of mining. Recent trends demonstrate declining human populations near Bristol Bay, and dismal economic prospects. Mine development might provide long-term opportunity for improved employment, better infrastructure (including schools), lower energy costs, and better means to access the salmon fishery. The peer reviewers should be asked whether subsistence cultures can be expected to thrive, or even survive in the region without new, non-fishery economic development. They should be asked whether EPA too narrowly framed its analysis of impact on subsistence cultures, and whether EPA's assumptions regarding current and future population and viability trends are valid. The peer reviewers should also be asked whether EPA's draft *Assessment* adequately takes those factors into account.

7. The Need to Adequately Describe and Assess Mine Mitigation Measures, Using "Best Practices." The peer reviewers should be asked whether the report adequately assesses specific available design, pollution control, and mitigation technologies, including (but not limited to) containment or impoundment structures; water treatment, retention, and release options; milling of potentially acid generating (PAG) tailings or waste rock; mitigation and monitoring; adaptive measures in the event of failures; and habitat modification. EPA's *Assessment* (at p. 4-1) states that the described mining practices "represent current good, but not necessarily best, mining practices." The peer reviewers should be asked whether "best mining practices" should be described and how the use of best available practices can limit impacts.

8. Projected Culvert Failures. The peer reviewers should be asked to analyze the support for EPA's estimated culvert failure rate, and whether EPA adequately considered long-term operation and maintenance activities associated with an active mining operation and post-operational use of the transportation corridor. The peer reviewers should be asked whether EPA adequately considered all viable engineering options (such as bridges) in estimating a large failure and blockage rate associated with the transportation corridor.

9. Other Issues. The charge should include a catch-all question that empowers the peer reviewers to comment on any other issue that could materially affect the assessment.

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10. Other Needed Areas of Expertise. The charge should ask the peer reviewers to identify any relevant area of expertise that is not represented on the panel. For example, do any of the peer review members possess sufficient expertise to credibly evaluate the rate of culvert failures along transportation networks, their influence on localized and regional fisheries, and relationship to modern mining activities? Similarly, do any of the peer review members possess sufficient expertise related to the mining industry, modern day mining practices (i.e., best practices and sustainable development guidelines), and minimum required mining regulations to ensure safe design, operations and closure?

II. Specific Proposed Re-formulations and Supplementations of the Charge Questions.

With the above points in mind, we offer these red-line edits and additions to the twelve charge questions proposed for public comment. EPA's draft charge questions should be modified and supplemented as follows:

> (1) The assessment brought together information to characterize the ecological, geological, and cultural resources of the Bristol Bay watershed, including the Nushagak and Kvichak watersheds. EPA has indicated that it intends to conduct the risk assessment in accordance with EPA's 1998 *Guidelines for Ecological Risk Assessment*[1] ("Guidelines"). Does this assessment meet EPA's guidelines for conducting a watershed assessment? Was this characterization of the ecological, geological, and cultural resources accurate? Can the conclusions drawn be replicated with certainty by third party review with data provided? Was any significant literature or data missed that would be useful to complete this characterization?
>
> a. Has EPA properly utilized data about modern metal mines operating in North America in co-existence with salmon and trout fisheries such as: (1) the Thompson Creek Mine near the Salmon River in Idaho; (2) the Highland Valley Copper Mine on the Fraser River system in B.C., Canada; and (3) the Red Dog Mine in Alaska?
>
> b. Has EPA properly utilized the extensive environmental baseline data collected by the PLP, and other available baseline data?
>
> (2) A formal mine plan or application is not available for the porphyry copper deposits in the Bristol Bay watershed. EPA developed a hypothetical mine scenario for its risk assessment. Given the type and location of copper deposits in the watershed, was this hypothetical mine scenario realistic? Has

[1] *See* U.S. EPA. (1998) Guidelines for ecological risk assessment. EPA/630/R-95/002Fa. Washington, DC. (available at www.epa.gov/raf/publications/guidelines-ecological-risk-assessment.htm).

EPA appropriately bounded the magnitude of potential mine activities with the minimum and maximum mine sizes used in the scenario? Is there significant literature or data not referenced that would be useful to refine the mine scenario?

a. Would EPA's assessment be improved by the development and consideration of an actual proposed mine plan and detailed alternative to it?

b. In the absence of an actual mine plan, does EPA's assessment lack scientific reliability?

(3) EPA assumed two potential modes for mining operations: A no-failure mode of operation and a mode outlining one or more types of failures. The no-failure operation mode assumes best practical engineering and mitigation practices are in place and in optimal operating condition. Is the no-failure mode of operation adequately described? Are the choices of engineering and mitigation practices, sufficiently detailed, reasonable and consistent with current best available practices? Is there significant literature or data not referenced that would be useful to refine these scenarios?

a. Has EPA identified best available engineering and mitigation alternatives and described how they can limit and avoid impacts?

b. Is EPA's assumption that paste tailings are infeasible well-founded from a mining engineering perspective?

c. EPA notes (at p. 4-23) that potentially acid-generating (PAG) waste rock might be milled at the end of mining to exploit mineral content and control acid rock drainage (ARD); if this approach was followed, how would it affect EPA's risk assumptions?

(4) Are the potential risks to the Bristol Bay salmon fishery ~~salmonid~~ fish due to habitat loss and modification and water quantity/quality changes appropriately characterized and described for the no-failure mode of operation? Does the assessment appropriately describe the scale and extent of the risks to the Bristol Bay salmon fishery due to operation of a transportation corridor under the no-failure mode of operation? Is there significant literature or data not referenced that would be useful to refine these risks?

(5) Do the failures outlined in the assessment reasonably represent potential system failures that could occur at a mine of the type and size outlined in the mine scenario? Is there a significant type of failure that is not described? Are

the assumed risks of failures appropriate? Is there significant literature or data not referenced that would be useful to refine this analysis?

a. Are the worst case mine tailings failure examples that EPA identified appropriate to assess potential effects of the Pebble Project?

b. Regarding the worst case mine tailings failure examples that EPA has identified, has EPA properly assessed their long-term adverse effects?

(6) Does the assessment appropriately characterize risks to the Bristol Bay salmon fishery ~~salmonid fish~~ and quantify the extent of the fishery which may be at risk due to a potential failure of water and leachate collection and treatment from the mine site? If not, what suggestions do you have for improving this part of the assessment? Is there significant literature or data not referenced that would be useful to characterize these risks?

(7) Does the assessment appropriately characterize risks to the Bristol Bay salmon fishery ~~salmonid fish~~ due to culvert failures along the transportation corridor? If not, what suggestions do you have for improving this part of the assessment? Is there significant literature or data not referenced that would be useful to characterize these risks?

a. Does the assessment provide adequate support for projected culvert failure rates?

b. Does the assessment adequately consider long-term maintenance associated with full-scale mining and post-mining activities or alternatives to culverts such as bridges which may mitigate potential impacts?

(8) Does the assessment appropriately characterize risks to the Bristol Bay salmon fishery ~~salmonid fish~~ due to pipeline failures? Given today's pipeline spill control technology, is a 24-hour spill a realistic scenario? What suggestions do you have for improving this part of the assessment? Is there significant literature or data not referenced that would be useful to characterize these risks?

(9) Does the assessment appropriately characterize risks to the Bristol Bay salmon fishery ~~salmonid fish~~ due to a potential tailings dam failure? If not, what suggestions do you have for improving this part of the assessment? Is there significant literature or data not referenced that would be useful to characterize these risks?

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(10) Does the assessment appropriately characterize risks to wildlife and human cultures due to risks to the Bristol Bay salmon fishery ~~fish~~? If not, what suggestions do you have for improving this part of the assessment? Is there significant literature or data not referenced that would be useful to refine this analysis?

a. Given the documented ongoing decline in the Alaska Native population, has EPA adequately identified and evaluated benefits to the Alaska Native peoples that would be provided by mine development, such as better means to access the fisheries and resources in the area, lower energy costs, improved schools and infrastructure, and better employment opportunities?

b. What are the likely population trends for the Alaska Native people in the absence of the jobs that would be provided by the Pebble Project?

c. To what extent would non-fishery economic development improve Alaska Natives' ability to sustain their subsistence cultures.

(11) Does the assessment ~~appropriately~~ reliably describe the potential for cumulative risk to the Bristol Bay salmon fishery from multiple mines? In the absence of a mine design proposal for the Pebble Project, or any development proposal for the other mineral deposits in the region, are EPA's projections of cumulative impacts from multiple mines scientifically valid? Is there significant literature or data not referenced that would be useful to refine this analysis?

(12) Does the assessment identify the uncertainties and limitations associated with the mine scenario and the identified risks? Is there significant literature or data not referenced that would be useful to define these factors?

(13) Are there additional issues or subjects which should be addressed to ensure the scientific reliability and adequacy of the *Assessment*?

(14) Are there additional areas of scientific expertise that should be added to the peer review panel and the EPA assessment team?

III. Conclusion

We urge EPA to reconsider and revise the charge questions based upon these comments.

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Respectfully Submitted,

John Shively
Chief Executive Officer

cc: Richard Schwartz, Crowell & Moring, LLP